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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,971	03/02/2004	Leon Bryn	BRM-100US1	2123
23122	7590	06/15/2004	EXAMINER	
RATNERPRESTIA P O BOX 980 VALLEY FORGE, PA 19482-0980			MUROMOTO JR, ROBERT H	
			ART UNIT	PAPER NUMBER
			3765	

DATE MAILED: 06/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/790,971

Applicant(s)

BRYN ET AL.

Examiner

Robert H Muromoto, Jr.

Art Unit

3765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 5-15 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-20 is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☒ Claim(s) 5-15 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/2/2004.
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. 06022004.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-4 and 16-20, drawn to a ceramic bias fiber holder and a loom using the holder, classified in class 139, subclass 448.
- II. Claims 5-15, drawn to a 3-D weaving loom, classified in class 139, subclass 11.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the bias fiber holder of Group I requires a ceramic vacuum cylinder not required in Group II. The subcombination has separate utility such as a fiber holder in any number of various textile-processing machines.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Art Unit: 3765

During a telephone conversation with Lowell Carson on 6/2/2004 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-4 and 16-20. Affirmation of this election must be made by applicant in replying to this Office action. Claims 5-15 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Specification***

The abstract of the disclosure is objected to because the recitation, "The present invention..." is redundant and not proper abstract language for US patent practice.

Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuta US patent 4,615,256 in view of Takuda US patent 5,347,743.

Fukuta '256 teaches a method and loom for the formation of 3-dimensional woven fabrics.

Specifically, Fukuta states, "FIG. 18 illustrates a typical modified version of the carrier arm provided with means capable of positioning and holding a yarn end. This carrier arm may be used in the place of the carrier arm 4 of FIG. 7 or that of FIG. 17. In the case of the construction of FIG. 18, the carrier arm is formed of a single arm piece 80, which is provided in the interior thereof with a suction path 81 for drawing in air by means of an air suction source (not shown). This suction path 81 opens into a yarn holding recess 82 near the leading end of the arm piece 80. On the periphery of this arm piece 80, a tubular sheath 83 is slidably fitted. When the suction of the yarn end by the yarn holding recess 82 is detected by a variation in the pressure within the suction path 81 or when the yarn end is judged to have been sucked by the yarn holding recess 82, the tubular sheath 83 is slid toward the leading end of the arm piece 80 (the position indicated by a chain line) by means of an electromagnet or a hydraulic cylinder, with the result that the yarn is firmly caught in place mechanically.

When the carrier arm is so constructed, since the yarn end is caught at a fixed position, the transfer of the yarn end between the adjacent carrier arms can be carried out with high accuracy.

Mechanisms for suction holding a yarn end find extensive utility in numerous textile machines. Of course, any of such mechanisms may be utilized

Art Unit: 3765

for the holding of a yarn end in the carrier arm (col. 11, line 46-col. 12, line 6, Figure 18).”

This cylindrical yarn holder is a bias yarn holder and is present in a plurality as the cylinder is stated to replace the carrier arms 4 which hold the “Z-yarns” (bias yarns).

The limitations of claim 2 are considered a product-by-process limitation.

“The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature” than when a product is claimed in the conventional fashion. In re Fessmann, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).”

Since no structural limitations are given in claim 2, Fukuta teaches the claim.

Fukuta does not teach that the vacuum cylinders comprise a ceramic material. However, the instant invention makes no statement of the criticality of the use of ceramic material or of the unexpected results therefrom. So it follows that ceramic material was used to take advantage of the many intrinsic properties known for ceramic materials.

Tokuda '743, teaches a guide ring on a fishing pole. Specifically stated by Tokuda, “The guide ring 2 is formed of a ceramic material, such as silicon

Art Unit: 3765

carbide, having excellent wear resistance (col. 4, line 63)." Therefore it would have been obvious to use a ceramic material to take advantage of the material's inherent excellent wear resistance properties as applied to the wear caused by a fiber running along a surface which is the same problem solved in both Tokuda and the instant application by using ceramic material.

### ***Allowable Subject Matter***

Claims 16-20 are allowed because claim 16 requires a loom in combination with a plurality of specific elements that are given very specific functions and location requirements with respect to a three-dimensional weaving loom.

Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: claim 4 would be allowable because the instant invention requires that the plurality of gripping tubes are releasably gripped by a bias shuttle and that a pair of arms are releasably gripped by an independently controllable bias arm.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References teaching three-dimensional weaving have been cited.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert H Muromoto, Jr. whose telephone number is 703-306-5503. The examiner can normally be reached on 8-530, M-F.

Art Unit: 3765

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Calvert can be reached on 703-305-1025. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bhm  
June 8, 2004

  
GARY L. WELCH  
PRIMARY EXAMINER